restricted out of the present invention are designated as being limited to only one subclass apiece. Surely this places an unreasonable burden on Applicants to pay fees for the examination of four separate patent applications which is not commensurate in scope with the modest additional burden to the Examiner of searching a total of four subclasses. Withdrawal of the restriction requirement and examination of the full scope of the claims is therefore respectfully requested.

The amendments to the specification and claims involving the term "monoamine oxygenase" correct an obvious typographical error. The amendment to claim 26 corrects an obvious error, in that the claims dependent thereon are to bacterial strains, not to plasmids, and furthermore, unamended claim 26 would not further limit claim 25.

The newly added claims 45-50 generally correspond to old claims 8-9, except that the claims are now all directed to recombinant genes and vectors containing them, which in turn contain DNA sequences coding for a gene which is operably linked to a promoter which is heterologous to the gene, capable of expressing a polypeptide having the biological activity of 2,4-D monooxygenase in a plant cell. Claim 46 is further supported by old claim 3 and on page 57, lines 4-7 of the specification. The protein coding sequence of Figure 10 begins, as designated in the Figure, at nucleotide 748 and ends at nucleotide 1608. New claims 51-53 are supported in the specification, e.g., on page 15, lines 8-11, and in Example 21.

Reconsideration of the rejection of the various claims under 35 U.S.C. §112, first paragraph, is respectfully requested.

The present invention describes several methods for isolating 2,4-D monooxygenase genes, including cloning directly from a plasmid known to contain the gene (page 7, first full paragraph); subcloning recombinant plasmids (page

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7, last paragraph); modification of tfdA-containing plasmids (page 10, second and third full paragraphs); hybridization of known sequences of the gene with genomic libraries from other species (page 12, last paragraph); antibody-based purification (page 16a, second paragraph), etc. Furthermore, as indicated on page 5, fourth paragraph, screening techniques are simple, in that they can be based upon having the ability to exploit as carbon and energy sources the products formed by the enzymatic degradation by 2,4-D monooxygenase. Still further, the specification points to a number of different genera known to also contain 2,4-D monooxygenase (paragraph bridging pages 1 and 2). Therefore, the disclosure provides ample enablement for isolation of 2,4-D monooxygenase from a large number of sources and by several methods.

Reconsideration of the rejection of claims 1-8, 17, 23, 32, 42 and 43 under 35 U.S.C. §103 as being unpatentable over Amy et al. in view of Beguin et al. is respectfully requested.

The invention as presently claimed is directed to a functional recombinant 2,4-D monooxygenase gene capable of being expressed in plant cells in combination with a heterologous promoter. Amy et al. merely isolated a 2,4-D monooxygenase gene, from a different organism, but did not sequence the gene or provide any other teaching which would lead a skilled worker to determine how to express the procaryotic monooxygenase gene in plant cells. Even if the DNA sequence of the gene cloned by Amy et al. had been provided, e.g., by the subcloning and sequencing techniques of Beguin et al., the presently claimed invention, capable of being expressed in plant cells, would still not have been obvious to one of ordinary skill in the art. See, for example, the specification at page 14, lines 25-30, which indicates that achieving regeneration of entire plants from transformed plant cells is not always successful. See also the discussion from page 15, line 5 to page 16, line 14.

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Thus, a skilled worker would not be able to predict with a reasonable likelihood of success whether a particular gene would be susceptible to transfer into plant cells, followed by regeneration of an entire plant which could express the transferred gene. "[W]here the prior art gives either no indication of which parameters are critical or no direction as to which of many choices is likely to be successful", or "where the prior art gives only general guidance as to the particular form of the claimed invention or how to achieve it", "the obviousness" of the claimed invention is merely "obvious to try" and fails to rise to the level of obviousness which the CAFC has enunciated as a standard. See In re O'Farrell, 7 USPQ 2d. 1673 (CAFC 1988). Therefore, the Examiner has not satisfied the burden of proof of obviousness for the present claims. Withdrawal of the rejection is therefore respectfully requested.

Reconsideration of the rejection of claims 9, 18 and 35 under 35 U.S.C. §103 as being unpatentable over Amy et al. in view of Beguin et al. as above and further in view of Carey et al. is respectfully requested.

The teaching of Carey et al. regarding heterologous promoters adds nothing to the rejection above of the presently claimed invention. Withdrawal of the rejection is therefore respectfully requested.

In view of the above remarks and amendments, it is respectfully submitted that the application is now in condition for allowance, which action is respectfully requested.

Respectfully submitted,

Diana Hamlet-King
Reg. No. 33,302
Agent for Applicants

MILLEN, WHITE & ZELANO, P.C.
Arlington Courthouse Plaza I
2200 Clarendon Blvd. Suite 1201
Arlington, VA 22201
(703) 243-6333

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